

Non-Destructive Testing International Winter School 2015

Chair of Non-Destructive Testing and Quality Assurance (LZfPQ)
Saarland University, Saarbrücken/Germany

February 22 to 28, 2015

Photo: Dillinger Hütte

Motivation

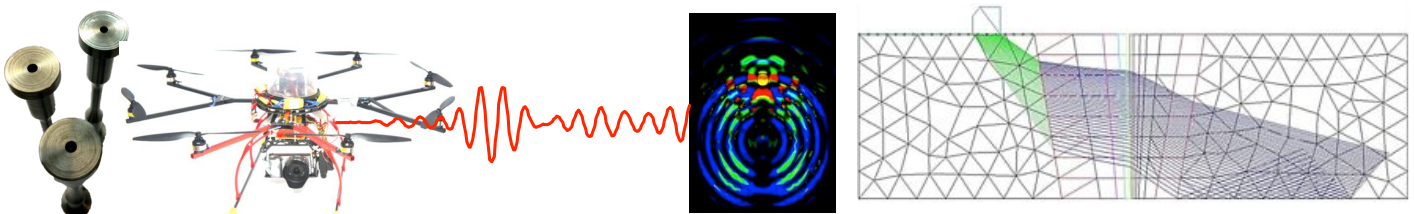
Non-destructive testing (NDT) is a field of science and engineering, which roughly spans between applied physics and mathematics on the one side and engineering (civil, electrical, materials science, mechanical or process) as well as biology and medicine on the other. Within the age of digital computing computer science becomes increasingly relevant too. It is related to characterise materials and structures non-intrusively would those materials and structures be at the macro, meso or micro scale respectively. NDT is considered to warranty the quality of materials and structures. This becomes important with respect to the enhanced performance of materials and structures in many fields of engineering as well as the need of life cycle enhancement and hence management.

Scope

The NDT Winter School is an international event mainly driven by the following four academic institutions:

- INSA Lyon/France
- Nanjing University of Aeronautics and Astronautics, Nanjing/China
- Saarland University, Saarbrücken/Germany
- Tohoku University, Sendai/Japan

It specifically addresses students at postgraduate level targeting at a master's or doctoral degree. The winter school is due to take place at a location where steel manufacturing and processing has a home and will be the central material to be elaborated on. Six academic lectures will be provided by reputable scientists in the field being related to metallic materials science and behaviour, the potential of acoustics, electromagnetism and thermography for metallic materials characterisation, inspection robotics for steel based structures and possibly others. Along this students will perform projects being related to quality control, fatigue damage, structural health monitoring and inspection robotics. Projects will be derived from real applications brought in by supporting industrial partners and students will be asked at the end of the winter school to present and discuss their project results with the respective industrial representatives. The winter school will be complemented with an industrial visit to Dillinger Hütte being one of the most reputable international steel manufacturers where an insight will be given into the manufacturing as well as the quality assurance process. Socialising events and a local sightseeing tour will allow participants to mingle with local people and culture.



Programme

A tentative programme has been established as follows:

February 22, Sunday	February 23, Monday	February 24, Tuesday	February 25, Wednesday	February 26, Thursday	February 27, Friday	February 28, Saturday	March 1, Sunday
Students Arrive in Saarbrücken and check-in	09:00-09:30 Orientation, by Professor Christian Boller	09:00-10:30 Academic Lecture 1	09:00-10:30 Academic Lecture 3	9:00 - 10:00 Student Presentations 3	09:00-10:30 Academic Lecture 5	8:00-18:00 Sightseeing Tour along Saar, Mosel and Rhine river	Students leave Saarbrücken for own Country if not leaving Saturday
	09:40-12:30 An Introduction into the four fields of application addressed:			10:00 - 12:30 Student Projects Session 4			
	Quality Control Fatigue Damage Inspection Robotics Struct. Health Monit.	11:00 - 12:30 Academic Lecture 2	11:00 - 12:30 Academic Lecture 4		11:00 - 12:30 Academic Lecture 6		
	12:30-13:30 Lunch	12:30-13:30 Lunch	12:30-13:30 Lunch	12:30-13:30 Lunch	12:30-13:30 Lunch		
	13:30-17:30 Student Projects Session 1	13:30 - 14:30 Student Presentations 1	13:30 - 14:30 Student Presentations 2	13:30 - 18:00 Industrial Visit	Project Presentation 13:30-14:15 Quality Control 14:15-15:00 Fatigue Damage 15:00-15:30 Coffee/Tea 15:30-16:15 Inspection Robotics 16:15-17:00 Struct. Health Monit.		
18:30-20:30 Get-together dinner with self-introduction	18:00-20:30 Welcome Party		18:00-20:30 BBQ Party		17:30-20:00 Industry/Academia Networking Party	Return to Saarbrücken around 18:00	

More up to date information can be found on:

<http://www.uni-saarland.de/lehrstuhl/boller/NDTWinterSchool2015>

Registration and further enquiries

Please apply by email before January 31, 2015

to bernhard.louis@mx.uni-saarland.de

Number of participants will be limited to 30 and participation will be approved on a 'first come first serve' basis.

Fees:

External students: 400 € (incl. teaching material, accommodation, all meals and visits)

Local students: 150 € (incl. teaching material, lunch, parties and visits)

Supporting Organisations



UNIVERSITÄT
DES
SAARLANDES



IFS 東北大学流体科学研究所
Institute of Fluid Science, Tohoku University

